



# CERTIFICATE OF ACCREDITATION

## ANSI National Accreditation Board

11617 Coldwater Road, Fort Wayne, IN 46845 USA

This is to certify that

**Acertara Acoustic Laboratories, LLC**  
**1950 Lefthand Creek Lane**  
**Longmont CO 80501**

has been assessed by ANAB and meets the requirements of international standard

**ISO/IEC 17025:2017**

while demonstrating technical competence in the field of

**CALIBRATION and TESTING**

Refer to the accompanying Scope of Accreditation for information regarding the types of activities to which this accreditation applies

ACT-1394

Certificate Number



ANAB Approval

Certificate Valid Through: 06/02/2021  
Version No. 005 Issued: 09/12/2019



This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (refer to joint ISO-ILAC-IAF Communiqué dated April 2017).



# ANSI National Accreditation Board

## SCOPE OF ACCREDITATION TO ISO/IEC 17025:2017

### Acertara Acoustic Laboratories, LLC

1950 Lefthand Creek Lane  
Longmont, CO 80501  
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### CALIBRATION AND TESTING

Valid to: **June 2, 2021**

Certificate Number: **ACT-1394**

### TESTING

#### Acoustics

Specific Tests and/or Properties Measured	Specification, Standard, Method, or Test Technique	Items, Materials or Product Tested	Reference Standard, Method and/or Equipment
Acoustic Pressure, Intensity and Power	IEC 60601-2-5 and IEC 61689, NEMA Standard Publication UD-2, Part 1050.10 of the Title 21 US CFR	Ultrasonic medical therapeutic equipment	Oscilloscope, Hydrophone, Acoustic Measurement System
Acoustic Pressure, Intensity and Power. Thermal and Mechanical indices	IEC 60601-2-37 and IEC 62359, NEMA Standard Publication UD-2	Ultrasonic medical diagnostic and monitoring equipment	Oscilloscope, Hydrophone, Acoustic Measurement System
Ultrasonic Energy	IEC 14708-1, -2, -3 and EN45502-1	Implantable medical devices	Oscilloscope, Hydrophone, Source Transducer, Acoustic Measurement System
Air & Simulated Use Temperature	IEC 60601-2-5, IEC 60601-2-37, IEC 60601-2-62 (201.11)	Ultrasonic medical equipment	Thermocouple, DAQ, Air / Water Chamber
Ultrasonic Power	IEC 62555	Ultrasonic medical diagnostic and medical therapeutic equipment	Radiation Force Balance, RTD
Acoustic Pressure, Intensity and Power.	IEC 60601-2-62, IEC 62556	Ultrasonic medical therapeutic equipment	Oscilloscope, Hydrophone, Acoustic Measurement System



CALIBRATION

Electrical – DC/LF Electrical

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-) <sup>2</sup>	Reference Standard, Method and/or Equipment
DC Voltage - Measure	(0.6 to 5.999) V (6 to 60) V (60 to 600) V	0.08% 0.08% 0.08%	Fluke 87 V
AC Frequency – Generate	(1 to 20) MHz	0.02%	Keysight 53210A, ARTIS TDS
AC Frequency – Measure	(1 to 20) MHz	0.3%	Keysight 53210A, ARTIS TDS
Capacitance – Measure 100 Hz, 120 Hz, 1 kHz, 10 kHz, 100 kHz	(200.1 to 2 000) pF	0.7%	Agilent U1733C and Capacitors

Electrical – RF Electrical

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-) <sup>2</sup>	Reference Standard, Method and/or Equipment
RF Power – Measure	(0 to 60) dBm 5 MHz	0.38 dB	Agilent 5990-4019EN (Artis TDS)
RF Power – Generate	(-20 to 20) dBm 5 MHz	0.31 dB	Agilent 5990-4019EN (Artis TDS)
RF Power – Measure	(0 to 3) dBm (1 to 15) MHz  (0 to 42) dBm 4 MHz	0.74 dB	Tektronix TDS3012B TDS3014C PE7008-1 Attenuators



Acoustics, Ultrasound and Vibration

Parameter / Equipment	Range	Expanded Uncertainty of Measurement (+/-) <sup>2</sup>	Reference Standard, Method and/or Equipment
Hydrophone – End of Cable Loaded Sensitivity	(2 to 10) MHz	10%	Reference Hydrophones, Acoustic Measurement System, ARTIS TDS
	(10 to 12) MHz	21%	
	(12 to 15) MHz	23%	
	(15 to 20) MHz	36%	

Calibration and Measurement Capability (CMC) is expressed in terms of the measurement parameter, measurement range, expanded uncertainty of measurement and reference standard, method, and/or equipment. The expanded uncertainty of measurement is expressed as the standard uncertainty of the measurement multiplied by a coverage factor of 2 ( $k=2$ ), corresponding to a confidence level of approximately 95%.

Notes:

1. % = percent of reading
2. This scope is formatted as part of a single document including Certificate of Accreditation No. ACT-1394.

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Vice President

